

## DESICCATION OF EAST AFRICA

BY CAPTAIN HENRY DARLEY

With reference to Mr. C. W. Hobley's article on alleged desiccation of East Africa in the *Geographical Journal* of November 1914, I am venturing to submit the following remarks.

South of the railway, or shall we say of the Equator, I know nothing, but north of that line I know it better than anybody, black or white, as far as the Addis Abeba and Khartoum line.

Take the Mount Kenia as one end of this line and Mount Elgon as the other. The intervening portion is crossed from north to south by the Rift Valley, with its accompanying volcanic disturbances, and the country generally falls away towards the north.

North of the line from Kenia to Elgon I believe the country is rapidly desiccating. That is to say, it is desiccating as far as Abyssinia. Abyssinia must be left out of the question as it is part of original Africa. It has never been subject to volcanic eruption, but north of that the desiccation again commences. This subject—that is to say, the subject of the country north of Abyssinia—is, however, so large that it is very difficult for one man to propound a satisfactory solution of the problem.

With reference to the part north of Abyssinia, it is well to remember that when the Jews fled from Pharaoh large numbers of them were cut off, owing to the cessation of the north wind. This north wind, as now, used to drive the waters back from the Bitter Lakes.

The hosts of Pharaoh were probably engulfed by the rise of the water, but a large number of the Jews who were following the main party appear to have been cut off, and to have travelled down the west side of the sea until they reached Abyssinia.

The track by which the main body of the Jews fled eastward is still a well-known caravan road, and can clearly be seen from the deck of any Nile steamer.

It is also interesting to notice that at this time the Red Sea was called the Sea of Reeds, and I believe that a certain amount of fresh water is necessary for the propagation of this plant. Certainly the reeds have ceased to exist.

This tends to show that at that time the shores of the Red Sea were therefore much better watered than they are at present.

Not only that, but the high-water level of the Nile was over thirty feet higher than it is at present.

Now if one proceeds southward up the Nile above Khartoum, evidences can be seen which point to the extent of the Sudd being at least twice what it is at present.

If you dig anywhere between the White Nile and the Abyssinian plateau, you will dig 120 feet through white sand, and not find a stone the size of your finger-nail in it. On the top of this sand occurs a layer of about six feet of black mud. It is considered that this mud marks the area originally covered by the Sudd.

At many places at the foot of the Western Abyssinian escarpment there is a regular formation which reminds one of an ancient beach. Numerous streams run down from the hills of Western Abyssinia, and when they reach the alluvial plain sink in and disappear. A large amount of water is thus continually lost, and must flow away towards the Nile. Some authorities are of opinion that there is a vast amount of water stored in the sands in the Nile valley and its vicinity, but at a lower level than the river bed and unaffected by the rise and fall of the Nile and its tributaries.

To go back to the country farther south, but north of the Kenia-Elgon line, any old native will here point out places where in their boyhood they used to water their cattle. Large stretches of this country are now *bondis* or dry watercourses.

The history of the Euaso Nyiro, which now virtually ceases in the Lorian, is too well known to all to note beyond the fact that it used originally to run from there into the sea.

North of that comes a stretch of country called Ingaroni, or the waterless district.

This district ceases at Essery, where again the water of the Sayer sinks into the ground.

It is evident that east of the Lorian and Essery line there has been a sinking of ground at some not very ancient times. The fact remains that in times of rain the waters from Essery and the Lorian go much farther than in the dry season.

In a few places which have not sunk, the water reaches the surface. North of the Sayer-Essery line is an absolutely waterless district, with the exception of the Mathews range, which is practically waterless, and a few mountains, all of which are volcanic, such as Marsabit and Kulal, where a little water is still found in pockets and small springs north of the Kulal-Marsabit line.

There is no water right up to the foot of the Abyssinian Hills.

Try back now to the district south of Lake Rudolf.

This also has sunk, and the Toron river runs through miles and miles of salt beds which were originally a lake area.

The marks of the volcanic action on the hills each side of this river are really remarkable, and more like pictures of Dante's *Inferno* than I conceived imaginable.

This is Turkana land, and it is one of the most difficult countries to traverse if you do not stick to the Kerio and Turkwell rivers. The country west of Lake Rudolf, which has dried up earlier, is even more difficult.

In this latter country, the country falls in a series of steps, and the subsided water-courses are even worse defined than they are east of Lake Rudolf. Beginning at Mount Elgon, the water rising in this extinct volcano does not run north.

The last example of volcanic activity north of lat. 4° is the extinct volcano of Kisgangor, west of the Boma Plateau on the Kuron river.

There is a stretch of country as far as Marangule which, being only a partial subsidence, is higher than the rest, and has formed itself into the watershed between Rudolf and the Nile. There are here a few—a very few—streams where water may be obtained by digging, but even at such places the natives—for instance, those at Mamimani and Tiwe—will show you stretches of country several days in extent where they used formerly to graze and herd their flocks and herds. This is now dried up.

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Leaving Marangule this subsidence is even more determined.

You can sit on the Marangule slopes and see almost to Abyssinia, a distance of fifteen to twenty days' march. This is absolutely waterless, with the exception of a few places in ancient *bondis*, where by digging you may obtain water.

Within the last thirty years this was thickly inhabited.

These inhabitants have now fled to the country sloping to the Nile where water is still obtainable.

East of Mogila and Zingole there is no water. Lake Rudolf is also rapidly drying up.

I have only touched the question as a whole, but information from men in other parts will, I am sure, tell the same story.

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Black, M. A.	.	.	Four naked sand rats.
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			Two scorpions.
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